

ATTACHMENT 9

TRUCK WASH AND TRUCK WASH RECYCLE SYSTEM

OPERATING PROCEDURES

The Truck Wash and Truck Wash Recycle System shall be operated and maintained according to the following procedures.

I. **HOW THE SYSTEM WORKS**

The Off-Site Vehicle Wash System is controlled by an electrical system designed for maximum efficiency utilizing components to protect the system from damage and to eliminate the waste of detergent and water.

Each operation of the system is individually controlled by a sonic control system using a sound beam to activate the systems.

Each operation is also monitored by a maximum and delay timer. Both types of timers are adjustable to fit the needs of each system. The maximum timer (0-12 minutes) cycle starts as soon as the system is activated. The delay timer (0-60 seconds) cycle starts as soon as the sound beam remakes behind the vehicle. The system will shut off as time expires on either the maximum or delay timer, whichever comes first.

In other words, if a vehicle enters the system, interrupting the sound beam, then stalls, the system will shut off as soon as time expires on the maximum timer. However, if the vehicle continues to move through the system and the sound beam remakes behind the vehicle, then the system will shut off at the expiration of time on either the maximum or delay timer, whichever comes first.

High and low level switches are used on the water tanks and in the sump pit. The purpose of these switches is to protect the tanks from overflowing and the pumps from running dry.

The water low level switch will stop the operation of the pump in the event the water tank is emptied. When the tank is refilled, the water high level switch will close, allowing the cycle to continue.

There are also reclamation/make-up high level switches on the tanks and in the sump pit. These switches replenish/transfer water in the tanks and sump pit (See Reclamation Operation).

A. **Entrance Door Operation**

The vehicle operator stops the vehicle in front of the entrance so that the vehicle interrupts the first sound beam. The door will automatically open. The traffic signal light will change from red to green when the door is completely open. The vehicle can now proceed forward into the washer.

B. **Underwash Operation**

The vehicle interrupts the second sound beam and the maximum timer, wash supply actuated valve, and wash pump motor starter are activated. Water is sprayed onto the undercarriage and sides of the vehicle. As the sound beam remakes behind the vehicle, a delay timer and entrance door close timer are activated. The wash operation is completed at the expiration of the time set on either the maximum or delay timers, whichever comes first. The entrance door will close at the expiration of the time set on the door close timer.

C. **Final Rinse Operation**

The vehicle interrupts the third sound beam and the maximum timer and final rinse pump motor starter are activated. The undercarriage and sides of the vehicle are flooded with fresh water as it passes through the final rinse tower. The exit door will automatically open. The traffic signal light will change from red to green when the door is completely open. The vehicle can now proceed forward out of the washer. As the sound beam remakes behind the vehicle, a delay timer is actuated. The final rinse operation is completed at the expiration of the time set on either the maximum or delay timers, whichever comes first.

D. **Exit Door Operation**

The exit door is opened when the third sound beam is interrupted. The vehicle interrupts the fourth sound beam as it exits the washer. As the sound beam remakes behind the vehicle, an exit door close delay timer is activated. The door will close at the expiration of the time set on the timer.

II. RECLAMATION OPERATION

The reclamation system has two water supply modes, Reclaimed and Fresh. In each mode the water will be pumped from the in-floor sump (maximum capacity 7,000 gallons) through the cyclone separator and into Tank No. 1. (Reference Permit Attachment 1, Truck Wash Facility Engineering Drawings of Vehicle Wash Equipment).

A. Reclaimed Water Mode

In the Reclaimed Mode the valve between Tank No. 1 (approximately 1,700 gallons capacity) and Tank No. 2 (approximately 1,700 gallons capacity) is opened. The fresh water make-up solenoid valve on Tank No. 2 is disabled and shall remain closed in this mode. When the washer is in operation, the level in the two tanks will drop together. The reclamation high level switch in Tank No. 1 will signal the reclamation pump to start. Water is pumped from the sump through the cyclone separator where suspended solids drop out. The reclaimed water then flows into Tank No. 1, filling both Tanks No. 1 and No. 2. When the tanks are full, the reclamation high level switch activates the reclamation timer. This allows the system to cycle for one hour after the last wash. Water will overflow the tanks and back into the sump pit, where the reclamation pump picks it up and pumps it through the cyclone separator for further filtration. Should the water level in the sump pit rise, the sump pit high alarm switch will start the transfer pump. The transfer pump empties Tanks No. 1 and No. 2. When the level drops in Tank No. 1, the reclamation high level switch will start the reclamation pump.

B. Fresh Water Mode

In the Fresh Water Mode, the valve between Tank No. 1 and Tank No. 2 is closed. When the washer is in operation, the level in Tank No. 2 will drop. The make-up high level switch in Tank No. 2 will open the make-up solenoid valve, filling Tank No. 2. The make-up solenoid valve will remain open until Tank No. 2 is full. The make-up high level switch will then close the make-up solenoid valve. When the sump pit becomes full, the pit high alarm switch will signal the transfer pump to start. The transfer pump empties Tank No. 1. The reclamation high level switch in Tank No. 1 will signal the reclamation pump to start. Water is pumped from the sump through the cyclone separator where suspended solids drop out. The reclaimed water then flows into Tank No. 1. When the level in the sump pit drops to an acceptable level, the sump pit reclamation high level switch signals the transfer pump to stop. Tank No. 1 is filled. The reclamation high level switch activates the reclamation timer. This allows the system to cycle for one hour after the last wash. Water will overflow Tank No. 1 and back into the sump pit.

III. CONTROLS

The selector switches are located on the door of the washer motor control panel. There are four three-position switches that select either HAND, OFF, or AUTO modes for the underwasher, final rinse, transfer pump, and reclamation.

All of the above switches should be in the AUTO position for normal operation. The OFF and HAND positions are for maintenance and troubleshooting purposes.

There are two (2) two-position switches. One selects either Reclaim or Fresh Water Supply Modes of the reclamation system. The other selects either Winter (ON) or Summer (OFF) modes of the door control system.

There is also a panel mounted printer to log run times and alarm conditions. The printer output should be checked and/or removed from the computer enclosure every 24 hours.

IV. SAFETY PROCEDURES AND PREVENTATIVE MAINTENANCE

Safety procedures shall follow facility health and safety procedures. Preventative maintenance shall be performed as required by the system manufacturer and at a frequency that ensures proper operation and function of the system.

V. WASTE MANAGEMENT

Transfer of waste water and sediment from the off-site vehicle wash system shall be in accordance with the Waste Analysis Plan, Permit Attachment 2.